

NURSES' USE OF CHIROPRACTIC FOR RELIEF OF BACK AND NECK PAIN

by

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## Introduction

Because of the physical demands of the profession, nurses often experience back and neck pain. Research on musculoskeletal disorders in working nurses by Heiden and colleagues (2013) demonstrated that those between the ages of 35 and 44 are especially susceptible to lower back pain related to patient handling. Other studies also found that older nurses and employees in similarly taxing fields who suffer from chronic pain had decreased productivity at work (Letvak et al., 2013; Ricci et al., 2006). With the bodily limitations that may arise from a nursing career, both young and aging nurses may choose to pursue less strenuous positions, retirement, or other professions (Letvak, 2009; Letvak et al., 2013). With an increased demand for nurses, it is imperative that the wellbeing of these healthcare workers is taken into consideration to maximize retention, patient care, and satisfaction on the job.

Chiropractic care utilizes a multidimensional approach to treat pain in the upper and lower back. From manual adjustments and transcutaneous electrical nerve stimulation (TENS) units to physical activity and diet advice, chiropractic therapy can provide symptomatic relief and improve muscle functioning (Globe et al., 2016). However, it can be difficult to get a consistent picture of the benefits of chiropractic care because the few available studies include a variety of populations and some have small samples and inadequate designs.

A larger study of 1853 adults by Hays and colleagues (2020) demonstrated that significant improvements in acute and chronic pain were reported after chiropractic care (Hays et al., 2020). A Swedish study by Gedin et al. (2019) found that 138 patients with acute and chronic back pain reported considerable improvements after four weeks of chiropractic treatment. A qualitative study on the outcomes of Complementary and Alternative Medicine (CAM) therapies indicated that adults (N = 138) ages 20 to 70 were satisfied and had positive responses to chiropractic treatment (Eaves et al., 2015).

A scoping review by Mior et al. (2019) showed chiropractic treatment to be effective in active-duty military personnel. Research by Corcoran et al. (2017) on 70 episodes of care for female veterans also indicated that chiropractic therapy was beneficial.

Few studies, however, have described use of chiropractic therapy by nurses or whether it is helpful in managing back pain. While studies on chiropractic care have indicated that it is beneficial, there is practically no research on nurses and the use of chiropractic treatment, even though nurses are known to have a higher-than-average incidence of back pain. Further research is needed to address this gap in the literature. The purpose of this study was to determine if chiropractic therapy could lessen back pain in nurses and improve performance at work.

## Methods

### *Narrative Inquiry*

This study employed narrative inquiry, which is based on the belief that people tell stories to assign meaning to their lives (Reissman, 2008). Researchers are able to analyze narratives to determine what they tell about a person as well as why the stories are told a particular way and what emotions are elicited. Narrators, or storytellers, create a narrative by connecting events and using intention and emphasis to elicit feeling from listeners. The significance each individual places on an experience can be analyzed through this method, allowing for a better understanding of the individual and the relationship with their retellings (Reissman, 2008).

In this study, narrative inquiry related to how nurses manage their acute or chronic back pain with or without chiropractic care allowed exploration of their emotions, reactions to treatment, and meanings behind their stories.

### *Sample*

Ethical approval was obtained from the Institutional Review Board before the study began. A sample of nurses was recruited from one chiropractic office in Greenville, North Carolina where the primary investigator had permission to recruit subjects. The intent was to recruit five to ten women and/or men nurses ages 21 to 65 by word of mouth and reference from the chiropractors' office practice. If more participants had been needed, recruitment would have been expanded to other offices after permission and IRB approval was sought. Based on the narrowness and specificity of the research question, the suggested sample size provided sufficient answers for the study. The suitability of the sample size was assessed repeatedly throughout the interview and research procedure. Once saturation, when all relevant data collection has been completed, no further insight can be gathered, and an understanding of the research has been formed, was thought to have been reached, the sample size was deemed adequate (Hennink, 2017). Inclusion criteria were: 1) participants who had some experience in the nursing field and a nursing degree; 2) participants who communicated effectively in English or had a qualified translator; 3) participants who frequented the chiropractor when dealing with back or other areas of discomfort and had work-related musculoskeletal pain.

### *Data Collection*

Participants were asked by their chiropractors if they would partake in a brief interview before or after their chiropractic visit. All participants listened to an informed consent for the study and the recording of their voice read by the investigator. Participants engaged in one face-to-face interview in the chiropractic office. The interview was held seated in a consultation room within the chiropractic office. Interviews lasted from fifteen to thirty minutes due to the limited and focused topic and were recorded. A professional digital recording device, the Olympus DM-720 that is supplied by the ECU CON Office of Research and Scholarship, was used. This is a

small, inconspicuous recorder that was placed on a surface between the interviewer and participant and turned off whenever the participant desired. Interview questions were open-ended and further focused based on the individual's responses. Demographic data including age, gender, years of experience working as nurse, physical activity, diet, and other treatments tried for back pain were collected. The self and prescribed management of back pain by nurses were explored through a series of questions such as: "What made you first visit a chiropractor?" "How has your chiropractic treatment been and what impact has it had on your back pain?" and "How do you feel chiropractic has compared to other treatments you have tried?" At the end of the interview, the interviewer summarized the main points of the interview, so a small clip board and blank paper were with the interviewer. The interviewer wrote down supplemental notes that added context to the recording such as participant facial expressions and body language. The interviewer asked the participant if they (the interviewer) summarized the main points correctly or would the participant like to add anything. From these inquiries, the nurse's experiences with back pain before and after chiropractic were revealed.

Participant information was kept confidential by removing identifying data from the interview transcripts. Pseudonyms were used to replace participant names. Data was stored on a password protected computer connected to a secure ECU nursing PirateDrive. The voice recordings were directly uploaded to the PirateDrive for secure storage.

### *Data Analysis and Rigor*

Audio recordings were then transcribed word for word and printed. After this, the recordings were deleted from the recorder. Each interview transcript was reviewed thoroughly. Annotations and highlights were performed to reveal themes relevant to the topic. Through a thematic

narrative analysis of the interviews, similarities and differences between participants' stories were examined. The audio recordings from the interviews were replayed and common themes were noted to explore the participants' experiences. For this study, back pain, health, nursing, and chiropractic treatment were commonly recognized themes.

To ensure rigor for the qualitative approach taken, meticulous attention was given to the reliability and validity of the research. For reliability, the research was carefully and methodically conducted (Cypress, 2017). For validity and to ensure rigor, the research was gathered through questioning participants, analyzing responses, and developing theories. Additionally, the research was transparent by reason of the detailed and clear explanation provided in the methods, results, discussion, and conclusions. Prior to the interviews with the participants, practice interviews were conducted with an individual outside of the study to test the comprehension of the interview questions and the work of the digital recorder. Thorough accounts of the process, results, and conclusions of the research were documented. The primary investigator's research mentor also analyzed the transcripts to negate bias. Throughout the interviews and following research, frequent checks were done to guarantee the criteria of rigor was being met.

### *Results*

Those sought for this study frequented a chiropractor when dealing with back or other areas of discomfort and had work-related musculoskeletal pain. Six participants agreed to participate in the study. Table 1 summarizes the demographics of the participants. All six participants were white. Participant ages ranged from 37 to 70; most were over 40 years of age. Participants had experience in the nursing field and a nursing degree, but not all were still in nursing practice. Out of the six participants, five had over 20 years of experience. The lowest number of years of

experience as a nurse was 11. Two participants had a Master of Science in Nursing, one had a doctorate in Nursing (PhD), and the remaining three were Bachelor of Science in Nursing graduates. All participants reported following an exercise plan throughout the week with activities ranging from walking to strength training to taking workout classes. Four participants mentioned a specific diet plan, but most of the participants mentioned “trying to eat healthy.”

Table 1

*Demographic characteristics of the study sample*

	<b>Gender</b>	<b>Age</b>	<b>Highest Degree</b>	<b>Nursing Specialty</b>	<b>Years of experience working as a nurse</b>	<b>Currently employed</b>	<b>Exercise plan</b>	<b>Diet plan</b>
<b>Julia</b>	Female	47	BSN	RN – emergency medicine, perioperative care, and teaching	21 years	Yes	Exercise 3-5 days a week	Almost never eats fast food
<b>Wanda</b>	Female	49	MSN	FNP - surgery	29 years	Yes	Walking 3 times per week, strength training without equipment 1-2 days a week	Try to eat healthy and count calories
<b>Brooke</b>	Female	37	BSN	Case management – administration	11 years	Yes	Orange Theory 3-4 times a week	N/A
<b>Jennifer</b>	Female	70	PhD	Behavioral health specialty	50 years	No	Workout with personal trainer twice a week and walk at least three times a week	Intermittent fasting / small portions
<b>Susan</b>	Female	50	BSN	Cardiac	29+ years	Yes	Walking	Low fat
<b>Claire</b>	Female	53	MSN	FNP – structural heart	26 years	Yes	3 times a week walk 2 miles	None

Four major themes emerged from the participant's stories: pain relief, maintenance care, improvement in work performance, and awareness.

### **Pain Relief**

Chiropractic proved to be a beneficial treatment for those suffering back pain both during and outside of work. All of the participants suffered from discomfort and pain ranging from the back to the neck to the jaw that interfered with nursing duties.

One participant, Wanda, said:

“Well when I was having like lower back pain with radiculopathy with it kinda shooting down my legs. Once I had my treatments with the chiropractor then that... that pain would be minimized. I wouldn't have that pain radiating down my legs. It would just be kind of a dull ache that was bearable at work. And then eventually, it would go away, it just kinda would take some time for that inflammation to get worked out.”

Another participant, Claire, reiterated how chiropractic therapy had contributed to an improvement in her pain: “...anytime I've had back pain whether it be from a work injury or I've been in a car accident, it [chiropractic] has completely relieved my back pain.”

The healing process for the nurses was gradual, and some reported that pain relief began to happen within one to three weeks of starting chiropractic. One nurse, Susan, who suffered from temporomandibular joint (TMJ) pain, rheumatoid arthritis, osteoarthritis, and back pain, mentioned her increased mobility and decreased pain after chiropractic treatments:

“I can tell a big difference after the first visit. And after the second visit, I didn't see as much of a difference immediately, but within a few days all the symptoms were gone. I had all the mobility back, pain was gone... so that worked out really well.”

Some participants noted that chiropractic therapy provided maximum pain relief when combined with other self-care strategies including exercise and nutrition. Brooke (37 years old) explained that many factors helped her stay healthy, and that chiropractic treatments played a part. Brooke said:

“I think everything's a holistic approach so I don't think one thing is a magic fix to anything. Like I said, I think you need to exercise regularly cus that just keeps your muscles strong and then... um, it's just like everyday life; I don't even know what I do to, like, get knots in my shoulders or get out of alignment. I'm just living my life, but



somehow it happens. And so, I feel like I need all these people to help me to stay the best that I can to avoid headaches and neck pain.”

### **Maintenance**

All of the participants applauded the benefits of chiropractic care and its consistency in providing pain relief. Participants scheduled visits from once a week to once a month to manage their pain and to prevent its worsening.

When asked how often they frequented the chiropractor or planned on returning, participants often mentioned having maintenance visits to remain pain-free. Susan said: “I will definitely use it when I need it, but I will probably look at going at least once a month or once every couple of weeks just to... especially since it helped my back so much.”

Similarly, Wanda, said:

“I would go for a while and then, you know, and then lapse for a while and then realize I needed to get back in and really since I’ve been here I’ve done more of the maintenance than I... before I would always go when my back would flare up and sometimes it would take a couple weeks to get myself straight again where I could function.”

### **Improvement**

The nurses that were still in practice mentioned that chiropractic improved their productivity at work; lifting, pulling, and turning patients became easier with a back and neck in alignment. Participants mentioned practicing proper body mechanics and utilizing other nurses and equipment to transport or move patients.

When asked about how chiropractic impacted their performance as a nurse at work, Wanda, (49 years old) explained her experience as a bedside nurse and how chiropractic treatments allowed her to better function at work:

“...once my back pain was relieved, I was able to function better at work because I’ve had... I’ve had periods of time where I mean I remember as a bedside nurse I had periods of time where my back hurt so bad that I had to get my colleagues to come help me when it came to moving patients and everything, but once I could get that pain eliminated, then I can function and do my job like carry out my daily duties and do what needed to be done.”

Brooke (37 years old) mentioned how chiropractic relieved her pain and resulted in a happier mood while at work and interacting with patients: “When you don’t have neck pain or headaches you can focus so much more on your tasks and your patients and you’re in a better mood... so it’s definitely... it helps a lot, I’d say.”

### **Awareness**

After several visits to the chiropractic office, many nurses mentioned being more in tune with and aware of what works for their bodies. By going to a chiropractor, they received therapy ranging from intersegmental traction tables and hydrotherapy to adjustments and interferential therapy along with insight on good body posture, nutrition, and stretching. These suggestions and treatments lessened back and other pain and allowed better body mechanics while working, and therefore improved performance for nurses.

Claire (53 years old) who has worked as a nurse for 26 years, mentioned how chiropractic made her advocate for her back more:

“It’s [chiropractic’s] kind of made me more cognizant of body mechanics, you know, when you’re younger you’ll rush and do things very quickly and as you get a little bit older, you think to yourself, ‘Oh, you know, let’s pause for a minute. Let’s get this patient to move this way or straighten up before I go in and intervene and try to get them to stand. Especially in surgical care, a lot of patients like to grab on to you and use you as the stabilator... like to be their stabilization piece and that will throw your back out in a heartbeat. So, um, I’ve learned to say no to patients. You know, we have equipment for this. Let’s just pause. Let’s everyone be safe.’”

When asked how chiropractic impacted how a nurse felt at work, Jennifer (70 years old) responded:

“I think I tried to be more aware of any symptoms, like if I was starting to feel an ache or starting to feel something... paying better attention to it,” and “I feel physically capable doing just about anything, and I think that’s because I’ve gotten a lot of education from chiropractors and have tried to utilize it.”

### *Discussion*

Nurses’ self-care is a frequent topic in current literature. Due to musculoskeletal pain, aging, and job dissatisfaction, nurses retire or switch to different areas of employment (Letvak, 2009).

Musculoskeletal pain, specifically back pain, has largely impacted nurse performance and is

exacerbated by high workloads and stressful work environments (Gabrielle et al., 2008). Awareness of the strategies nurses are using to stay healthy is crucial to continue growing a productive workforce. Some commonly used self-care strategies for helping cope with back and other areas of pain include limiting work hours, using lift equipment, and moving to less physically demanding areas of work (Letvak, 2009). However, use of chiropractic therapy as a strategy for self-care has received limited attention. Future research related to self-care by nurses should include chiropractic among the therapies nurses may find beneficial. All of the nurses interviewed in this study experienced back, neck, or other forms of pain, and all of them found pain relief from chiropractic therapy. They mentioned how discomfort and pain at work led to reduced productivity, but with the help of chiropractic, the nurses still in practice had better performance in and out of work.

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